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TOWNSEND and TOWNSEND and CREW LLP

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Confirmation No. 4746
Srikanth Karimisetty et al.	Examiner: Jay A. Morrison
Application No.: 10/731,604	Technology Center/Art Unit: 2168
Filed: December 8, 2003	APPELLANTS' BRIEF UNDER 37 CFR §41.37
For: METHOD AND SYSTEM FOR CREATING QUERIES THAT OPERATE ON UNSTRUCTURED DATA STORED IN A DATABASE	

Mail Stop Appeal Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Further to the Notice of Appeal mailed on August 13, 2009 for the above-referenced application, Appellants submit this Brief on Appeal.

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1. REAL PARTY IN INTEREST

Appellants respectfully submit that all right, title, and interest in the subject invention and application are assigned to Oracle International Corporation of Redwood Shores, California. Therefore, Oracle International Corporation is the real party in interest.

2. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals or interferences.

3. STATUS OF CLAIMS

Claims 1-3, 5-12, 14-17, 19, and 20 are pending in the Application. Claims 4, 13, and 18 having been previously canceled.

Claims 1-3, 5, 11, 12, 14, 16, 17, and 19 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over non-patent literature entitled "Integrating XML and Database" by Bertino et al. (hereinafter "Bertino"), in view of U.S. Patent Application Publication No. 2005/0091188 to Pal et al. (hereinafter "Pal), in further view of non-patent literature entitled "NoDoSE -- a tool for semi-automatically extracting semistructured data from text documents" by Adelberg (hereinafter "Adelberg").

Claims 6, 7, 15, and 20 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Bertino, in view of Pal, in further view of Adelberg, and in further view of U.S. Patent No. 7,346,598 to Arora et al. (hereinafter "Arora").

Claims 9 and 10 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Bertino, in view of Pal, in further view of Adelberg, and in further view of Arora.

Claim 8 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Bertino, in view of Pal, in further view of Adelberg, and in further view of U.S. Patent No. 6,856,970 to Campbell et al. (hereinafter "Campbell").

Appellants, therefore, appeal the final rejection of claims 1-3, 5-12, 14-17, 19, and 20.

4. STATUS OF AMENDMENTS

Appellants respectfully submit that no amendments are awaiting entry after the Final Office Action mailed February 13, 2009.

5. SUMMARY OF CLAIMED SUBJECT MATTER

The Application relates in general to methods of and systems for securely storing and accessing electronic records, capturing electronic signatures, and securely associating captured electronic signatures with corresponding electronic records. (Application: Paragraph [0002]). Embodiments are useful to a variety of companies in a variety of different industries and some embodiments are particularly useful in helping pharmaceutical, medical device, and food manufacturing companies ensure compliance with Good Manufacturing Practice regulations (GMPs) as the companies produce and test products that people/animals use.

The Application contains the following pending independent claims: Claims 1, 9, 11, and 16. Claims 2-5 and 34 depend directly or indirectly from independent claim 1. Claims 3 and 5-8 depend directly or indirectly from independent claim 1. Claim 10 depends directly from independent claim 9. Claims 12, 14, and 15 depend directly or indirectly from independent claim 11. Claims 17, 19, and 20 depend directly or indirectly from independent claim 16.

Independent claims 1, 9, 11, and 16 are summarized below and annotated to cross-reference individual limitations of the claims to one or more specific embodiments and/or examples disclosed in the Application. These annotations are for the purposes of illustration and are not intended to limit the scope of the recited limitations to those specific embodiments and/or examples to which the annotations refer.

Independent **Claim 1** recites (*with added reference annotations in parenthesis*) a method of searching unstructured data stored in a database, the method comprising:

storing unstructured data in a column of a database table in character large object (CLOB) format; (*Application: FIG. 3, evidence store 30; Paragraphs [0009], [0048]*)

generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to

designate elements in the unstructured data as query elements; (*Application: FIG. 3, user interface 32; block 93; FIG. 13 is a graphical user interface to assist a user in creating queries; Paragraphs [0100], [0103]*)

receiving user input via the first graphical user interface identifying one or more elements in the unstructured data stored in CLOB format as query elements; (*Application: FIG. 3, user interface 32; block 93; FIG. 13 is a graphical user interface to assist a user in creating queries; Paragraphs [0100], [0103]*)

generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more elements identified as query elements in the unstructured data stored in CLOB format; (*Application: FIG. 1B, index 33; FIG. 9 illustrates one example of database tables that can be used to track indexed elements as part of index 33 shown in FIG. 1B; Paragraphs [0085], [0102]*)

generating one or more queries on the unstructured data stored in CLOB format using the query elements; (*Application: FIG. 3, block 94, query 95; Paragraph [0106]*)

translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format; and (*Application: FIG. 3, modified query 96; Paragraph [0106]*)

obtaining information from the unstructured data stored in CLOB format for the corresponding element. (*Application: FIG. 3, evidence store 30*)

Independent **Claim 9** recites a method of searching XML data stored in a column of a database table in character large object (CLOB) format, the method comprising:

storing the XML data in the column of the database table in CLOB format, wherein the XML data comprises a first plurality of XML elements that conform to a first data type definition (DTD) and a second plurality of XML elements that conform to a second DTD; (*Application: FIG. 3, evidence store 30; Paragraphs [0009], [0048]*)

generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate XML elements in the first and second plurality of XML elements in the unstructured

data as query elements; (*Application: FIG. 3, user interface 32; block 93; FIG. 13 is a graphical user interface to assist a user in creating queries; Paragraphs [0100], [0103]*)

receiving user input via the first graphical user interface identifying one or more XML elements in the first and second plurality of XML elements as query elements; (*Application: FIG. 3, user interface 32; block 93; FIG. 13 is a graphical user interface to assist a user in creating queries; Paragraphs [0100], [0103]*)

generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more XML elements in the first and second plurality of XML elements identified as query elements; (*Application: FIG. 1B, index 33; FIG. 9 illustrates one example of database tables that can be used to track indexed elements as part of index 33 shown in FIG. 1B; Paragraphs [0085], [0102]*)

generating one or more queries on the unstructured data stored in CLOB format using the query elements; (*Application: FIG. 3, block 94, query 95; Paragraph [0106]*)

translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding XML element in the unstructured data stored in CLOB format; and (*Application: FIG. 3, modified query 96; Paragraph [0106]*)

obtaining information from the unstructured data stored in CLOB format for the corresponding XML element. (*Application: FIG. 3, evidence store 30*)

Independent **Claim 11** recites computer system for searching unstructured data stored in a database, the computer system comprising:

a processor; (*Application: FIG. 1A, one or more processors 1*)

a database; and (*Application: FIG. 1A; storage subsystem 3 may also provide a repository for storing the various databases and files used by the present invention including evidence store 30 and database 34 shown in and discussed with respect to Fig. 1B; Paragraph [0037]*)

a computer-readable memory coupled to the processor, the computer-readable memory configured to store a computer program; (*Application: FIG. 1A; storage subsystem 3 may be configured to store the basic programming and data constructs that provide the functionality of computer system 10; Paragraph [0037]-[0038]*)

wherein the processor is operative with the computer program to:

store unstructured data in a column of a database table in character large object (CLOB) format; (*Application: FIG. 3, evidence store 30; Paragraphs [0009], [0048]*)

generate a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements in the unstructured data as query elements; (*Application: FIG. 3, user interface 32; block 93; FIG. 13 is a graphical user interface to assist a user in creating queries; Paragraphs [0100], [0103]*)

receive user input via the first graphical user interface identifying one or more elements in the unstructured data stored in CLOB format as query elements; (*Application: FIG. 3, user interface 32; block 93; FIG. 13 is a graphical user interface to assist a user in creating queries; Paragraphs [0100], [0103]*)

generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more elements identified as query elements in the unstructured data stored in CLOB format; (*Application: FIG. 1B, index 33; FIG. 9 illustrates one example of database tables that can be used to track indexed elements as part of index 33 shown in FIG. 1B; Paragraphs [0085], [0102]*)

generating one or more queries on the unstructured data stored in CLOB format using the query elements; (*Application: FIG. 3, block 94, query 95; Paragraph [0106]*)

translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format; and (*Application: FIG. 3, modified query 96; Paragraph [0106]*)

obtaining information from the unstructured data stored in CLOB format for the corresponding element. (*Application: FIG. 3, evidence store 30*)

Independent **Claim 16** recites a computer-readable storage medium storing a computer program operative with a processor of a computer system for searching unstructured data stored in a database (*Application: FIG. 1A; storage subsystem 3 may be configured to store the basic programming and data constructs that provide the functionality of computer system 10; Paragraph [0037]-[0038]*), the computer program comprising:

code for storing unstructured data in a column of a database table in character large object (CLOB) format; (*Application: FIG. 3, evidence store 30; Paragraphs [0009], [0048]*)

code for generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements in the unstructured data as query elements; (*Application: FIG. 3, user interface 32; block 93; FIG. 13 is a graphical user interface to assist a user in creating queries; Paragraphs [0100], [0103]*)

code for receiving user input via the first graphical user interface identifying one or more elements in the unstructured data stored in CLOB format as query elements; (*Application: FIG. 3, user interface 32; block 93; FIG. 13 is a graphical user interface to assist a user in creating queries; Paragraphs [0100], [0103]*)

code for generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more elements identified as query elements in the unstructured data stored in CLOB format; (*Application: FIG. 1B, index 33; FIG. 9 illustrates one example of database tables that can be used to track indexed elements as part of index 33 shown in FIG. 1B; Paragraphs [0085], [0102]*)

code for generating one or more queries on the unstructured data stored in CLOB format using the query elements; (*Application: FIG. 3, block 94, query 95; Paragraph [0106]*)

code for translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format; and (*Application: FIG. 3, modified query 96; Paragraph [0106]*)

code for obtaining information from the unstructured data stored in CLOB format for the corresponding element. (*Application: FIG. 3, evidence store 30*)

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

6.1 Whether claims 1-3, 5, 11, 12, 14, 16, 17, and 19 are unpatentable under 35 U.S.C. § 103(a) over non-patent literature entitled "Integrating XML and Database" by

Bertino et al. (hereinafter "Bertino"), in view of U.S. Patent Application Publication No. 2005/0091188 to Pal et al. (hereinafter "Pal), in further view of non-patent literature entitled "NoDoSE -- a tool for semi-automatically extracting semistructured data from text documents" by Adelberg (hereinafter "Adelberg").

6.2 Whether claims 6, 7, 15, and 20 are unpatentable under 35 U.S.C. § 103(a) over Bertino, in view of Pal, in further view of Adelberg, and in further view of U.S. Patent No. 7,346,598 to Arora et al. (hereinafter "Arora").

6.3 Whether claims 9 and 10 are unpatentable under 35 U.S.C. § 103(a) over Bertino, in view of Pal, in further view of Adelberg, and in further view of Arora.

6.4 Whether claim 8 is unpatentable under 35 U.S.C. § 103(a) over Bertino, in view of Pal, in further view of Adelberg, and in further view of U.S. Patent No. 6,856,970 to Campbell et al. (hereinafter "Campbell").

7. ARGUMENT

Appellants respectfully submit that, based on the discussion below, Bertino, Pal, Adelberg, Arora, and Campbell fail disclose or suggest each and every claim limitation recited in independent claims 1, 9, 11, and 16.

Applicants respectfully submit that a prima facie case of obviousness has not been established by the evidence presented in the Office Action. As reiterated by the Supreme Court in KSR International Co. v. Teleflex Inc. (KSR), 550 U.S. ___, 82 USPQ2d 1385 (2007), the framework for the objective analysis for determining obviousness under 35 U.S.C. § 103 is stated in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966). The factual inquiries enunciated by the Court are as follows:

(A) Determining the scope and content of the prior art;

(B) Ascertaining the differences between the claimed invention and the prior art; and

(C) Resolving the level of ordinary skill in the pertinent art.

To reach a proper determination under 35 U.S.C. § 103(a), the Examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in

the art" when the invention was unknown and just before it was made. In view of all factual information, the Examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. (M.P.E.P. § 2142). "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

Applicants respectfully submit that Bertino, Pal, Adelberg, Arora, and Campbell, either individually or in combination, fail to disclose one or more of the claim limitations recited in each of claims 1-3, 5-12, 14-17, 19, and 20. These differences, along with other difference, establish that the subject matter as a whole of claims 1-3, 5-12, 14-17, 19, and 20 would not have been obvious at the time of invention to a person of ordinary skill in the art.

7.1 BERTINO, PAL, ADELBERG, ARORA, AND CAMPBELL, EITHER INDIVIDUALLY OR IN COMBINATION, DO NOT RENDER UNPATENTABLE CLAIMS 1-3, 5, 11, 12, 14, 16, 17, AND 19.

As referenced above, "[t]o support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

As explained further below, each of claims 1-3, 5, 11, 12, 14, 16, 17, and 19 recite at least one limitation that is not disclosed, either explicitly or inherently, or suggested by the combination of Bertino, Pal, Adelberg, Arora, and Campbell.

For example, independent Claim 1 recites a method of searching unstructured data stored in a database. As recited. a first graphical user interface is generated and displayed on a display device. As recited, the first graphical user interface is configured to enable users to designate elements in unstructured data stored in database tables in CLOB format as query

elements. As recited, user input is received via the first graphical user interface. The recited user input identifies one or more elements in the unstructured data stored in CLOB format as query elements. As recited, one or more queries on the unstructured data stored in CLOB format may be generated using the identified query elements.

The Examiner fails to support a conclusion that the claimed invention is directed to obvious subject matter. The combination of Bertino, Pal, Adelberg, Arora, and Campbell does not expressly or impliedly suggest the claimed invention. Moreover, the Examiner fails to present a convincing line of reasoning as to why a skilled artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

Specifically, the Examiner acknowledges on page 5 of the Final Office Action mailed February 13, 2009 that Bertino and Pal fail to disclose the limitations of "generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements in the unstructured data as query elements" and "receiving user input via the first graphical user interface identifying one or more elements in the unstructured data stored in CLOB format as query elements" as recited in claim 1. The Examiner also alleges on pages 5 and 6 of the Final Office Action mailed February 13, 2009 that the disclosure in Adelberg of a GUI that allows a user to hierarchically decompose a document in combination with the teachings of Bertino and Pal renders the claimed invention obvious and therefore unpatentable. Appellants respectfully disagree.

In essence, unstructured data takes the form of e-mails, documents, and other data that cannot be neatly stored in a database. For example, an e-mail may contain several relevant portions, such as sender ID, recipient ID, subject, and body that can be difficult to separate out due to how different e-mails may be formatted. Thus, when storing unstructured data in a database, an entire e-mail may be stored in CLOB format in the database. Even XML documents, while they may appear structured internally, are considered unstructured data, and therefore stored in CLOB format in the database.

The method of claim 1 enables a user to search not only a database, but within unstructured data stored in the database in CLOB format. As recited, a user can designate

elements or portions in the unstructured data as query elements. Because native indexing cannot be used on CLOB fields to get to information within the unstructured data, as recited, an intermediate index is generated between each user created query element and its corresponding element designated by the user in the unstructured data. As recited, the intermediate index allows queries against the unstructured data to be translated from their query elements (e.g., those created by the user) into the elements or portions in the unstructured data that where designated by the user.

Adelberg, however, presents no disclosure that would allow a user to use the disclosed GUI that allows a user to hierarchically decompose a document in combination with Bertino and Pal to create indexed query elements as recited in claim 1. In particular, Adelberg discloses a tool (i.e., NoDoSE) having a graphical user interface (see page 7 of Adelberg, FIGS. 4 and 5) that enables a user to simply decompose a document. In section 2.2., first paragraph, Adelberg outlines the process of decomposing documents where the user loads a single document into NoDoSE and hierarchically decomposes the document using a GUI. Documents of the same type can be loaded and automatically parsed based on the hierarchical decomposition, while the user uses the GUI to correct the automatic parsing.

Thus, Adelberg merely discloses a tool having a GUI that enables a user to create a structure for otherwise unstructured data using the GUI. However, Adelberg fails to disclose or suggest designating one or more of the newly created structural elements as query elements as recited in claim 1.

In section 3.1, first paragraph, Adelberg discloses that during decomposition a user selects a relevant section or portion of the document and maps the selected portion of data to one or more nodes in a hierarchy. As can be see in FIG. 4 of Adelberg, the GUI allows the user to add/delete nodes or elements in a data model and indicate to which portion of raw data an element refers to provide such mappings. On page 8, in section 3.1, Adelberg lists the structural components of each node as being a typeName, startOffset, endOffset, label, authored, and confidenceValue. Examples of the typeName in Adelberg are atomic types, such as integers, floats, strings, dates, email addresses, and URLs in additional to compex types, like sets, bags,

lists, and records. However, none of these node attributes designate a node as indexed query elements as recited in claim 1.

Adelberg simply states that the NoDoSE system maintains a tree that maps the structural elements of a document to the text of a file. But this is where the disclosure of Adelberg ends, with a mapping between structural elements of a document to text of a file. Adelberg provides no further disclosure that would suggest using the GUI in Adelberg to also designate one or more of newly created structural elements as query elements as recited in claim 1.

As recited claim 1, the first graphical user interface is configured to enable users to designate elements in the unstructured data as query elements. Adelberg merely discloses the use of a GUI to designate portions of text in unstructured data as nodes or elements of a data model. Accordingly, the combination of Bertino, Pal, and Adelberg does not suggest using the GUI of Adelberg to designate elements in the unstructured data as query elements as recited in claim 1.

The Examiner further fails to present a convincing line of reasoning as to why one of ordinary skill would have found the claimed invention to have been obvious in light of the teachings of the references. The Examiner states on page 5 of the Final Office Action mailed February 13, 2009, final paragraph, that it would have been obvious to combine Bertino, Pal, and Adelberg because using the recited limitations "would have given those skilled in the art the tools to improve the invention by bringing new data such as mail, code, documentation and other text within the reach of general query tools." Appellants do not argue that being able to decompose documents utilizing the GUI in Adelberg would bring "new data such as mail, code, documentation and other text within the reach of general query tools." This is because the decomposed portions of the unstructured data could then be extracted as disclosed in section 2.3 on page 6 of Adelberg and stored as traditionally expected in their respective columns of database tables to be "within the reach of general query tools." While this does provide "the advantage of being able to perform searches and indexing on data items which are not normally searchable" as suggest by the Examiner, this line of reasoning is insufficiently convincing to establish that the tool disclosed in Adelberg is applicable as alleged to "identifying one or more

elements in the unstructured data stored in CLOB format as query elements" as recited in claim 1.

This is due to the fact that Adelberg stops short of any disclosure or suggestion of a GUI that enables users to identify "one or more elements in the unstructured data stored in CLOB format as query elements" as recited in claim 1. Adelberg lacks such an explicit or implicit disclosure and the simple reasoning of an "advantage of being able to perform searches and indexing on data items which are not normally searchable" as suggest by the Examiner fails to consider how the unstructured data is stored, indexed, and queried as recited in claim 1. Accordingly, the combination of Bertino, Pal, and Adelberg fails to render claim 1 unpatentable under 35 U.S.C. § 103(a).

Therefore, Appellants respectfully submit that Bertino, Pal, and Adelberg fail to disclose each and every claim limitation as recited in claim 1. Appellants further respectfully submit that none of the cited references cure the above-discussed deficiencies of Bertino, Pal, and Adelberg, and thus, claim 1 is allowable over the cited references.

Appellants respectfully submit that independent claims 9, 11, and 16 are allowable for at least a similar rationale as discussed above for the allowability of claim 1, and others. Appellants respectfully submit that the dependent claims that depend directly and/or indirectly from independent claims 1, 9, 11, 16 respectively, are also allowable for at least a similar rationale as discussed above for the allowability of the independent claims. Appellants further respectfully submit that the dependent claims recite additional features that make the dependent claims allowable for additional reasons.

7.2 BERTINO, PAL, ADELBERG, ARORA, AND CAMPBELL, EITHER INDIVIDUALLY OR IN COMBINATION, DO NOT RENDER UNPATENTABLE CLAIMS 6, 7, 15, AND 20.

For at least a similar rationale as discussed above for the allowability of claim 1, Appellants respectfully submit that dependent claims 6, 7, 15, and 20 are also allowable.

7.3 BERTINO, PAL, ADELBERG, ARORA, AND CAMPBELL, EITHER INDIVIDUALLY OR IN COMBINATION, DO NOT RENDER UNPATENTABLE CLAIMS 9 AND 10.

For at least a similar rationale as discussed above for the allowability of claim 1, Appellants respectfully submit that dependent claims 9 and 10 are also allowable.

7.4 BERTINO, PAL, ADELBERG, ARORA, AND CAMPBELL, EITHER INDIVIDUALLY OR IN COMBINATION, DO NOT RENDER UNPATENTABLE CLAIM 8.

For at least a similar rationale as discussed above for the allowability of claim 1, Appellants respectfully submit that dependent claim 8 is also allowable.

8. CONCLUSION

For these reasons, it is respectfully submitted that the rejection should be reversed.

Respectfully submitted,

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9. CLAIMS APPENDIX

1. (Previously presented): A method of searching unstructured data stored in a database, the method comprising:

storing unstructured data in a column of a database table in character large object (CLOB) format;

generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements in the unstructured data as query elements;

receiving user input via the first graphical user interface identifying one or more elements in the unstructured data stored in CLOB format as query elements;

generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more elements identified as query elements in the unstructured data stored in CLOB format;

generating one or more queries on the unstructured data stored in CLOB format using the query elements;

translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format; and

obtaining information from the unstructured data stored in CLOB format for the corresponding element.

2. (Previously presented): The method of claim 1 wherein the one or more queries specify at least one value and an operation that is to be performed on a user-identified element in the unstructured data.

3. (Previously presented): The method of claim 2 wherein the one or more queries further include a start date and an end date.

4. (Canceled)

5. (Previously presented): The method of claim 1 wherein the unstructured data comprises a well-formed XML document stored within a column of a database table.

6. (Previously presented): The method of claim 5 wherein XML fields of the unstructured data are filled with transaction data intercepted from a database transaction prior to committing the transaction based on a predefined mapping to multiple data sources.

7. (Previously presented): The method of claim 6 wherein the multiple data sources comprise multiple tables of a database.

8. (Original): The method of claim 1 wherein the unstructured data is part of an electronic record stored in a common repository of electronic records that provides an audit trail that cannot be altered or disabled by users of the system.

9. (Currently amended): A method of searching XML data stored in a column of a database table in character large object (CLOB) format, the method comprising:

storing the XML data in the column of the database table in CLOB format, wherein the XML data comprises a first plurality of XML elements that conform to a first data type definition (DTD) and a second plurality of XML elements that conform to a second DTD;

generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate XML elements in the first and second plurality of XML elements in the unstructured data as query elements;

receiving user input via the first graphical user interface identifying one or more XML elements in the first and second plurality of XML elements as query elements;

generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more XML elements in the first and second plurality of XML elements identified as query elements;

generating one or more queries on the unstructured data stored in CLOB format using the query elements;

translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding XML element in the unstructured data stored in CLOB format; and

obtaining information from the unstructured data stored in CLOB format for the corresponding XML element.

10. (Previously presented): The method of claim 9 wherein the first and second DTDs include first and second XML elements, respectively, that share a common name but represent different types of data; and

wherein translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding XML element in the unstructured data stored in CLOB format comprises translating a first query element that represents the first XML element and not the second XML element and a second query element that represents the second XML element and not the first XML element.

11. (Previously presented): A computer system for searching unstructured data stored in a database, the computer system comprising:

a processor;

a database; and

a computer-readable memory coupled to the processor, the computer-readable memory configured to store a computer program;

wherein the processor is operative with the computer program to:

store unstructured data in a column of a database table in character large object (CLOB) format;

generate a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements in the unstructured data as query elements;

receive user input via the first graphical user interface identifying one or more elements in the unstructured data stored in CLOB format as query elements;

generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more elements identified as query elements in the unstructured data stored in CLOB format;

generating one or more queries on the unstructured data stored in CLOB format using the query elements;

translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format; and

obtaining information from the unstructured data stored in CLOB format for the corresponding element.

12. (Previously presented): The computer system of claim 11 wherein the one or more queries specify at least one value and an operation that is to be performed on a user-identified element in the unstructured data.

13. (Canceled)

14. (Previously presented): The computer system of claim 11 wherein the unstructured data comprises well-formed XML documents stored within a column of a table stored in the database.

15. (Original): The computer system of claim 14 wherein fields of the unstructured data are filled with transaction data from a database transaction based on a predefined mapping to multiple data sources.

16. (Currently amended): A computer-readable storage medium storing a computer program operative with a processor of a computer system for searching unstructured data stored in a database, the computer program comprising:

code for storing unstructured data in a column of a database table in character large object (CLOB) format;

code for generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements in the unstructured data as query elements;

code for receiving user input via the first graphical user interface identifying one or more elements in the unstructured data stored in CLOB format as query elements;

code for generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more elements identified as query elements in the unstructured data stored in CLOB format;

code for generating one or more queries on the unstructured data stored in CLOB format using the query elements;

code for translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format; and

code for obtaining information from the unstructured data stored in CLOB format for the corresponding element.

17. (Previously presented): The computer program of claim 16 wherein the one or more queries specify at least one value and an operation that is to be performed on a user-identified element in the unstructured data.

18. (Canceled)

19. (Original): The computer program of claim 16 wherein the unstructured data comprises well-formed XML documents stored within a column of a table stored in the database.

20. (Original): The computer program of claim 16 wherein fields of the unstructured data are filled with transaction data from a database transaction based on a predefined mapping to multiple data sources.

10. EVIDENCE APPENDIX

NONE

11. RELATED PROCEEDINGS APPENDIX

NONE